

Table K-5. Scoping letters and EIS sections or DOE's responses

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|---|-----------------|--|
| | LETTER OF ROGER L. BANKS | | |
| | UNITED STATES DEPARTMENT OF THE INTERIOR Fish and Wildlife Service P.O. Box 12559 217 Fort Johnson Road Charleston, South Carolina 29412 | | |
| | July 27, 1983 | | |
| | Mr. M. J. Sires, III Assistant Manager for Health, Safety and Environment U.S. Department of Energy Savannah River Operations Office P.O. Box A Aiken, South Carolina 29801 | | |
| | Re: Scoping comments - EIS for L-Reactor | | |
| | Dear Mr. Sires: | | |
| | The U.S. Fish and Wildlife Service offers the following comments and suggestions for consideration in connection with preparation of the above referenced EIS. The Service has previously reviewed, and is generally familiar with, the content of the Environmental Assessment (EA) prepared for L-Reactor start-up. Within the confines of addressing existing fish and wildlife resources, and impacts to these resources arising from thermal effluents from L-Reactor, the EA represents a substantial base from which to build the fish and wildlife portions of the EIS. | | |
| | The Service suggests the following additional informational needs and issues be addressed within the scope of a thorough impact analysis: | | |
| AB1 | 1. The preliminary list of issues presented in DOE's | Wetland impacts | Sections 4.1.1.4, 5.1.1.2, 5.2.4, Appendix C, Appendix I |

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Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
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| AB2 | July 19, 1983 information release should be expanded | Wildlife | Sections 3.6.1, 3.6.2, 4.1.1, 4.4.2, Appendix C, Appendix I |
| AB3 | to include the major topics of wetlands, wildlife and surface water quality. | Surface water quality | Section 4.1.1.5. |
| AB4 | 2. Qualification and quantification of available fisheries spawning and nursery habitat in the Steel Creek floodplain as it would be affected by L-Reactor start-up. | Fisheries | Sections 3.6.2, 5.2.5, Appendix C |
| AB5 | 3. Use of existing conditions in Steel Creek and its floodplain should be used as a baseline from which to determine start-up impacts rather than utilizing pre-1968 conditions. | NEPA procedures | Sections 3.4.1.2, 4.1.1, 4.1.2.2 |
| AB6 | 4. Impact analysis should concentrate on habitat and resource losses as finite units rather than relating these losses as percentages of remaining unaffected similar habitats and resources at the Savannah River Plant (SRP) or within the whole Savannah River basin. | Wetlands impacts | Sections 4.1.1.4, 4.4.2, 5.2.4, Appendix C, Appendix I |
| AB7 | 5. Cumulative wetland habitat losses from all SRP operations should be discussed. | Thermal effects | Sections 4.1.1.4, 4.4.2, 4.4.3.4, 5.2.4, 5.2.5.1 |
| AB8 | 6. Since the Steel Creek system is in an early successional stage of recovery from pre-1968 operational impacts, and since the fish and wildlife resource values of a system may vary with its successional state, a thorough discussion of future successional seres and values without the project should be included. | Wetlands impacts | Sections 4.1.1.4, 4.4.2, 5.1.1.2, 5.2.4, Appendix C, Appendix I |
| AB9 | 7. Adverse impacts on recreational fishing in the vicinity of the Steel Creek/Savannah River confluence should be addressed. Fisheries biologists with the South Carolina Wildlife and Marine Resources Department have reported that this is the most popular shad fishing spot in the State of South Carolina, and the most popular fishing spot for largemouth bass and red-breast in the Savannah River. | Fisheries | Sections 5.2.4.2, 5.2.5.1 |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
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| AB10 | 8. The EIS should include a thorough discussion of current water quality standards as regulated by the South Carolina Department of Health and Environmental Control, and how the L-Reactor discharge would comply with these standards. | Regulatory requirements | Chapter 7 |
| AB11 | 9. A thorough exploration of non-destructive cooling water alternatives such as cooling towers and/or cooling ponds should be incorporated with the EIS. Cooling pond alternatives should not be limited to damming segments of Steel Creek, but should also include the feasibility of digging lakes or ponds out of available uplands at SRP. Scheduling and/or financial concerns should not preclude thorough exploration of these cooling water alternatives. | Alternative cooling | Sections 4.4.2, Appendix I See Comment E6 |

The Service appreciates this opportunity for input into the EIS process at this early stage.

Sincerely yours,

Roger L. Banks
Field Supervisor

RLB/SG/lm

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
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LETTER OF ARTHUR H. DEXTER

Rt. 1 Box 80A
Aiken, S.C. 29801
August 3, 1983

Mr. M. J. Sires, III
Assistant Manager for Health,
Safety and Environment
U.S. Dept. of Energy
Savannah River Operations Office
P.O. Box A
Aiken, S.C. 29801

Dear Mr. Sires:

My name is Arthur H. Dexter and I am a retired employee of the E. I. du Pont de Nemours and Co. After graduation from Rensselaer Polytechnic Institute with an M.S. degree in physics in 1951, I was assigned by du Pont to the Argonne National Laboratory where I led a small group of physicists in performing exponential experiments, with the CP-2 reactor at Palos Park, that determined the basic lattice parameters for the SRP reactors. In 1953, I was transferred to the Savannah River Plant and from then until retirement in 1981, I performed research, development, and safety studies that covered or touched on almost every aspect of the plant's processes from reactor monitoring and safety systems to separations processes and weapons development. During this period I served in the following Savannah River Laboratory divisions: Instrument Development, Applied Physics, Experimental Physics, Theoretical Physics, Nuclear Materials, Reactor Engineering, Environmental Transport, and Actinide Technology. As a result of these many assignments, I have an extensive overall knowledge of the SRP.

I am writing in reply to DOE's invitation of July 19, 1983 that invited members of the general public, like myself, to submit comments and suggestions for consideration in connection with the preparation of the Environmental Impact Statement (EIS) for the 105-L reactor. I remain as concerned about the safety of residents in the surrounding communities as I did as an SRP employee and I should like to feel that the EIS you will generate

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

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| AC1 | is honest, factual, and presents an up-to-date evaluation of the risks to which the populace is subject. I am concerned in particular that the subject of confinement/containment, which after all is the most important concern of any operating reactor, should be treated accurately and openly. Perhaps it seems strange that I should expect anything other than this, but I am concerned that a recent publication that I read failed to do this. I refer to a handout distributed at the public hearings of 5/24/83 at the H. O. Weeks Center, Aiken, and which was entitled "Confinement vs. Containment" (no authorship given). This publication not only failed to give a factual presentation of the existing confinement/containment situation at SRP but actually created some impressions that just were not true. I subsequently obtained a copy of the Environmental Assessment and searched it for the basic information on confinement/containment that I expected to find, but to no avail. I am concerned that if this state of affairs carries over to the EIS, then that document will merely give lip service to safety without ever examining the actual risks to which the public is subject. Certainly DOE, du Pont, and the rest of us do not want this to occur. For this reason, I wish to present in simplified form the essential information that I believe the EIS must contain for accuracy. I will do this in three sections that present: A. the scenario that applies in the case of a loss of coolant accident (LOCA) with associated melting of the fuel, B. the role of the SRP confinement system in this scenario, and C. a summary that includes some personal comments that I feel relevant. | Safety alternatives | Section 4.4.1, Appendix G |
| AC2 | <p>A. <u>The Loss of Coolant Accident (LOCA)/Fuel Melt Down Scenario</u></p> | Accident analysis | Sections 4.2.1, 4.4.1, Appendix G. |
| AC3 | In the event of a LOCA with an associated melting of reactor fuel, existing contingency plans at SRP call for flooding of the fuel core with water from the Savannah River, in order to provide emergency cooling of the fuel. Initial admission rates would be on the order of 1500 gallons per minute, as I recall. This emergency cooling water almost immediately overflows the 105-L reactor building and flows through: 1) the 106-"building" (a 50,000 gallon basin), and 2) a 500,000 gallon tank, exiting finally into an outdoor excavation that has a capacity of 50 million gallons. Since it is projected that cooling water will probably have to be provided for several weeks, the earthen | Accident analysis | Sections 4.2.1.5, Appendix G |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

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| | basin will be substantially filled by the end of this time. (At the initial rate of 1500 gallons per minute, 23 days would be required to fill the basin, but the initial flow would be reduced with time.) | | |
| AC4 | The major portion of the overall radioactivity released from the fuel will be transported by the emergency cooling water to the outdoor earthen basin where the radioactive noble gases and radioactive iodine (radioiodine) will diffuse from the basin water surface to the atmosphere. Studies that I have performed at SRP and reported upon at a Sun Valley, Idaho, "Air Cleaning Conference," indicate that there will be essentially a quantitative (100%) release of the radioiodine to the atmosphere. Those of us who have been involved with this scenario envision a "purple cloud" of iodine emanating from the basin and being transported by the dictates of the wind. | Accident analysis | Sections 4.2.1.1, 4.2.1.4, Appendix G |
| AC5 | Only a small portion of the radioactivity released by the molten fuel is subject to retention in the 105-L reactor building: (1) the noble gases and radioiodine released directly to the building atmosphere and (2) noble gases and radioiodine that are released within the 500,000 gallon tank, as it fills with water, and which are piped back to the 105-L reactor building. The contribution from (2) will be terminated by the filling of the tank, which will require about five hours. The airborne radioactivity in the 105-L building will be carried by the building ventilation system to a series of demisters, high-efficiency particulate air filters (HEPA filters) and carbon absorption beds, which, in SRP parlance, is referred to as the confinement system. <u>B. The Confinement System</u> The Confinement System is intended to remove: (1) radioactive aerosol particulates by means of the HEPA filters and (2) radioiodine by means of the carbon absorption beds. The radioactive noble gases are not affected by the confinement system and pass to the atmosphere through the 200 ft. stack of the 105-L reactor building. | Accident analysis | Sections 4.2.1.3, 4.2.1.4, Appendix G |
| AC6 | Since there has never been an accident at SRP of the kind described in the Scenario of Section A, it cannot be said with certainty that the confinement system will function as | Accident analysis | Section 4.2.1.4, Appendix G |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

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| | <p>intended. However, even if it performs as designed it will serve only to remove a small portion of the total radioactivity released from the fuel since the majority will have passed to the 50-million gallon basin. However, there are several scenarios which have been advanced that may serve to partially, or even totally, negate the effectiveness of the confinement system:</p> <ul style="list-style-type: none"> There is an ever present danger of a steam or hydrogen explosion accompanying the melt down accident. This could result in the generation of overpressures that could destroy the paper-like HEPA filters, particularly if there is steam wetting of the HEPA's, which would cause a loss in the inherent strength of the filter paper. Additionally, an explosion of this kind could cause the carbon beds to be coated with moisture which would render them ineffective for the removal of iodine. This could result in the release of essentially all airborne radioactivity to the outside environment via the 200 ft. stack. A second and equally serious failure of the confinement system can occur if there is an overloading of the carbon beds with sufficient radioactivity to cause self-heating, ignition, and fire in the charcoal material. This in turn could result in the release of all the previously absorbed radioiodine via the 200 ft. stack. The propensity of carbon for ignition is abetted by the reduction in ignition temperature that occurs in carbon as a result of aging. | | |
| AC7 | <ul style="list-style-type: none"> Still another cause for failure of the carbon beds to function as intended is the inability of the carbon beds to absorb radioiodine when the radioiodine is in the form of an organic iodide compound. There is considerable experimental evidence to indicate that a very large portion of the radioiodine released by the molten fuel may be instantaneously converted to organic compounds in the course of a fuel meltdown. This radioiodine would not be absorbed by the carbon beds and would pass up the stack. | Accident analysis | Section 4.2.1.4, Appendix C |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

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| | <u>C. Summary</u> | | |
| AC8 | <p>The major portion of the radioactivity released in a LOCA/fuel meltdown accident will pass to the excavated, 50-million gallon basin from which radioactive noble gases and radioiodine will diffuse to the atmosphere and will be carried off by the wind. A smaller portion of the airborne radioactivity in the reactor building may be retained by the SRP confinement system but there is a reasonable possibility that it may not be retained.</p> <p>Finally, I wish to offer a few personal comments and observations as regards the EIS: While the message contained in the summary is not one that will instill confidence in those who reside near the plant, it is factual and honest in its essentials. A candid EIS should provide an overdue acknowledgement that the present SRP system is in reality a non-confinement system for the scenario outlined. Obviously the EIS must treat this matter and indicate how these deficiencies can be rectified. However, some nine or ten years ago I was one of several researchers who sought unsuccessfully for a means to retain the radioiodine in the 50-million gallon basin. My own studies with sodium thiosulfate proved unavailing in that the radioactivity of the basin water, it was demonstrated, would cause the release of radioiodine and negate the retention properties of the thiosulfate. I believe that we exhausted all practical mechanical and chemical possibilities at that time. In view of this, I can only conclude that the best hope for the protection of the populace and the environment lies in the retrofitting of a containment dome to the 105-L reactor. The effectiveness of such containment vessels has been amply demonstrated in the Three-Mile Island accident. Moreover, as you are probably aware, the Reactor Engineering Division of the Savannah River Laboratory has advanced proposals and designs for containment domes over a period of years. Unfortunately these proposals to have been turned down on the basis of cost. Perhaps it is time</p> | Accident analysis | Section 4.2.1.4, Appendix G |
| AC9 | | Accident analysis | Sections 4.2.1.2, 4.4.1 |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

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to acknowledge that the cost is a part of our doing business at SRP and not greatly different than the costs we are all willing to shoulder for the solidification of waste.

I look forward to seeing the EIS and hope that it will lay to rest my concerns by examining the confinement/containment issues with greater candor and in greater detail than was done in the Environmental Assessment.

Yours truly,

Arthur H. Dexter

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|---|--|---------------------|-----------------------------|
| LETTER OF JOHN F. DOHERTY | | | |
| 318 Summit Ave. #3 Brighton, Mass. 02135 | | | |
| August 3, 1983 | | | |
| Mr. M. J. Sires, III Assistant Manager for Health, Safety & Environment U.S. Dept. of Energy Savannah River Operations Office P.O. Box A Aiken, S.C. 29801 | | | |
| Dear Mr. Sires: | | | |
| Below are my written suggestions on the scope for the EIS for the L-Reactor Resumption of Operation, at the Savannah River Plant. I am replying to an Energy Department notice in the July 19, 1983, <u>Federal Register</u> , at Page 32966. | | | |
| AD1 | 1. The EIS should have a determination of the dose to a person of radioactivity at a distance of one mile, five miles and ten miles from the reactor in the event of a worst case accident. | Accident analysis | Section 4.2.1.5, Appendix G |
| AD2 | 2. The environmental consequences of a worst case accident should be analyzed in accordance with the recent <u>Sierra Club vs Sigler</u> , decision, 695 F 2d 957 (5th Cir: 1983) for both an L-reactor without a containment and one with a containment that meets the requirements of Nuclear Regulatory Commission regulations: 10 CFR 50, Appendix A, Design Criteria 50-57. | Safety alternatives | Section 4.4.1 |
| AD3 | 3. A cost benefit analysis should be presented in the EIS comparing a reactor with containment with one without a containment (such as proposed in the EA, taking into | Safety alternatives | Section 4.4.1.6 |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

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account doses to the public (iodine* and other materials)
at varying distances with consequent non-fatal and fatal
cancers, and non-fatal and fatal birth defects.

Thank you for this opportunity.

John F. Doherty

*/ Iodine is important here because a containment's primary
use is to contain gaseous iodine until it has disintegrated
to lighter elements which are not subject to rapid uptake
as iodine is to the thyroid gland.

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
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| | LETTER OF E. T. HEINEN | | |
| | UNITED STATES ENVIRONMENTAL PROTECTION AGENCY Region IV 345 Courtland Street Atlanta, Georgia 30365 | | |
| | 4 PM-EA/JM | | |
| | Mr. M. J. Sires, III Assistant Manager for Health, Safety and Environment U.S. Department of Energy Savannah River Operations Office P.O. Box A Aiken, South Carolina 29801 | | |
| | Dear Mr. Sires: | | |
| | On August 1 and 2, a member of my staff participated in a series of scoping meetings on the EIS the proposed resumption of the L-Reactor operation at the Savannah River Plant (SRP) in Aiken, South Carolina. Based upon these meetings and our review of the <u>Federal Register</u> notice for the initiation of the EIS scoping process, we believe that the Department of Energy (DOE) has identified the majority of the issues and analyses that need to be developed through the NEPA process. However, to ensure that our concerns are adequately addressed, we offer the following issues we believe need special attention in the EIS. | | |
| AE1 | First, we believe that all of the thermal mitigation alternatives for the heated water discharges from the L-Reactor need to be fully discussed in the EIS. Such a discussion should include the direct environmental impacts for each of the alternatives, estimated cost of implementing each alternative, and the relationship of each thermal mitigation alternative to the ongoing thermal mitigation study at SRP. | Alternative cooling | Section 4.4.2, Appendix I See Comment E6 |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
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| AE2 | Second, to assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in the receiving stream, Section 316(a) of the Clean Water Act requires DOE to demonstrate that the plant's thermal discharge would not impact existing stream conditions. The EIS should provide the information needed to complete this analysis. | Fisheries | Sections 5.2.4.2, 5.2.5.1, Appendix C, Appendix I |
| AE3 | Third, the South Carolina Department of Health and Environmental Control (SCDHEC) has drafted an NPDES permit for the L-Reactor that requires the effluent from the plant to comply with thermal stream criteria at the point of discharge into Steel Creek, rather than at the edge of a rather extensive mixing zone in the Savannah River (as specified in the current NPDES permit). Consistent with this position, the EIS should discuss the effects of thermal discharge in the context of the direct and indirect effects on Steel Creek and its floodplain. In this regard, the EIS should also discuss the administrative procedures which DOE will utilize should the Draft NPDES permit be issued limiting thermal discharges into Steel Creek. | Regulatory requirements | Chapter 7 |
| AE4 | | Thermal effects | Sections 4.1.1.4, 4.4.2, 4.4.3.4, 5.1.1.2, 5.2.4, 5.2.5.1 |
| AE5 | Fourth, to aid the general public in understanding the offsite radiation doses from the L-Reactor, the offsite dose levels should be compared to normal background levels. Also, the health effects from the offsite exposure should be discussed in context with DOE's ongoing long term epidemiological study at SRP. | Radiological effects | Sections 5.1.2, 5.2.6, Appendix B, Appendix D |
| AE6 | | Health effects | Sections 5.1.2.5, 5.2.7, Appendix B |
| AE7 | Finally, the EIS should develop alternatives for the waste discharges from the operation of the L-Reactor to the seepage basins at the chemical separation areas (F-area, H-area, M-area, Fuel and Target Fabrication areas). These alternatives should be consistent with Parts 261-264 of the Resource Recovery and Conservation Act (RCRA). | Seepage basins | Section 4.4.3 |
| AE8 | | Regulatory requirements | Chapter 7 |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

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| | <p>We appreciate the opportunity to comment on the proposed scope of the EIS and provide input into the planning for this important project. Members of my staff will be happy to discuss the specifics of any of the issues raised above.</p> <p>Sincerely yours,</p> <p>E. T. Heinen, Chief Environmental Assessment Branch Office of Policy & Management</p> | | |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|------------------------------|--|--|----------------------------|
| LETTER OF ERNEST F. HOLLINGS | | | |
| | UNITED STATES SENATE 115 Senate Office Building Washington, D.C. 20510 202-224-6121 | | |
| | ERNEST F. HOLLINGS South Carolina | Committees: BUDGET: Ranking Democrat | |
| | Offices: 1835 Assembly Street Columbia, South Carolina 29201 803-765-5731 | APPROPRIATIONS State, Justice, Commerce and the Judiciary: Ranking Democratic | |
| | 103 Federal Building Spartanburg, South Carolina 29301 803-585-3702 | Defense Labor, Health and Human Services, Education Energy and Water Development Legislative | |
| | 242 Federal Building Greenville, South Carolina 29603 803-233-5366 | COMMERCE, SCIENCE, AND TRANSPORTATION Communications: Ranking Democrat | |
| | 112 Custom House 200 East Bay Street Charleston, South Carolina 29401 803-724-4525 | Surface Transportation Science, Technology, and Space | |
| | 233 Federal Building Florence, South Carolina 29503 803-662-8135 | DEMOCRATIC POLICY COMMITTEE OFFICE OF TECHNOLOGY ASSESSMENT NATIONAL OCEAN POLICY STUDY | |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
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| August 3, 1983 | Mr. Richard P. Denise, Acting Manager Department of Energy Savannah River Operations Office Box A Aiken, S.C. 29801 | | |
| | Dear Mr. Denise: | | |
| | Thank you for your recent letter inviting my comments on the scope of the L-Reactor EIS. I appreciate you writing. | | |
| | Since my position on the EIS issue is well-known, there seems no point in submitting a statement for this week's hearings. I simply enclose a portion of my July 10 statement on the Senate floor, in which I listed the topics which I feel the EIS should cover. | | |
| | I am glad to see the EIS finally underway. If it fully answers the questions that have been raised, and if it presents the advantages and disadvantages of the different mitigation options, then it will do much to lay the present dispute to rest. | | |
| | Thank you again for writing. | | |
| | Sincerely, | | |
| | Ernest F. Hollings | | |
| | Enclosure | | |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
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| | <p>CONGRESSIONAL RECORD--SENATE Excerpts from Senator Hollings' June 10 floor statement on the L-Reactor EIS</p> <p>June 10, 1983</p> <p>Finally, Mr. President, I want to emphasize again that this environment impact statement is to be a serious effort, and one that fully addresses the questions that have been raised by me, Senator MATTINGLY, and many others. Attached to this statement is a list of the topics that I want to see addressed in the EIS, and I ask that it be printed at the conclusion of these remarks.</p> <p>Mr. President, I understand that the distinguished chairman of the Armed Services Committee, Senator TOWER, agrees with me on this point.</p> <p>Mr. TOWER. Mr. President, I do agree with the Senator from South Carolina that this EIS should be a serious study and one that addresses the environmental questions that have been raised about the L-reactor project. I have seen the list of topics that the Senator wants the EIS to address, and I feel that this list is reasonable.</p> <p>My concern has been to keep this EIS from taking so long that it hurts vital national security programs, but this expedited schedule ensures that the EIS will be completed in a timely way. It also provides the Department of Energy with sufficient time to perform a complete, indepth analysis of the issues raised.</p> <p>Mr. HOLLINGS. I thank the Senator from Texas, and once again want to commend him, Senator JACKSON, and Senator MATTINGLY for their roles in this matter.</p> <p>The material requested to be printed in the Record is as follows:</p> <p>Topics That The L-Reactor EIS Should Cover in Detail</p> | | |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

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| | <p>Since the purpose of the L-Reactor EIS is to provide additional information to the public and to elected officials, and to allow for additional citizen input, the EIS should provide details on those issues that have been raised by citizens and government officials. In particular, the EIS should provide clear, complete information on the following topics.</p> | | |
| AF1 | (1) Groundwater contamination.--Since the L-Reactor will lead to more fuel fabrication in the "M" area of the Savannah River Plant, one question that arises is whether restarting the L-Reactor will add to the already troubling groundwater contamination problems in M. There is also the question of whether L/Reactor-related activities in the separations area will, or possibly can, lead to groundwater contamination. Thus the EIS should discuss these matters in considerable detail, especially covering these points: | Groundwater contamination | Sections 4.1.2.2, Appendix F |
| AF2 | (a) Potential impacts.--In particular, what quantities of chemicals and radioactive materials have already been discharged into the ground at both M-area and the separations area? What steps are being taken now to prevent further contamination in these areas, to monitor existing contamination, and to clean up those underground reservoirs now contaminated? In particular, what will be done to clean up or restore the Congaree and Tuscaloosa aquifers? How much would the L-Reactor's operation, using current pollution control equipment, add to the present discharges? And what are the pathways by which any such contamination could flow into areas outside of the Savannah River Plant? | Groundwater contamination | Section 4.1.2.2, Appendix F |
| AF3 | | Monitoring | Sections 6.1.1, 6.2.2 |
| AF4 | (b) Mitigation options.--It is very important that the EIS discuss in detail the options available--both in the short-term and the longer-term--to prevent or mitigate any groundwater contamination that might be caused by L or L-related activities. For instance, commercial plants of all kinds often use advanced waste water treatment technologies? Which are available here, at what costs, and with what time frames? | Mitigation measures | Section 4.4.3 |
| | (2) Radiocesium and tritium: | | |

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| AF5 | (a) Potential impacts.--There are a great many questions about the cesium now in the Steel Creek area that will be resuspended by L-Reactor operations. Among the questions that the EIS should explicitly address and answer are the following. How much cesium is in the Creek area, where exactly is it, and how did it get there? Where exactly is it likely to be deposited after the restart and at what pH? What concentrations are likely at different locations along the Creek and the Savannah River? What are the possible health effects of radiocesium? What data and assumptions lie behind DOE's answers to these questions? Similar details on waterborne and airborne tritium releases also should be provided. | Radiocesium remobilization | Sections 3.7.2, 4.1.2.4, Appendix B, Appendix D |
| AF6 AF7 | | Health effects Radiological effects | Section 4.1.2.4 Sections 5.1.2, 5.2.6, Appendix B, Appendix D |
| AF8 | (b) Mitigation options.--Would cooling towers or other cooling | Alternative cooling | Section 4.4.2, Appendix I, Comment E6 |
| AF9 | technologies reduce the resuspension or migration of the radio-cesium in Steel Creek? It is possible to excavate the sedi-ments presently holding the cesium? What technologies are available for retrieving and storing the cesium if it should end up in any city's water treatment filters or sludge? | Radiocesium remobilization | Section 4.1.2.4, Appendix B |
| AF10 | Similarly, what, if anything, can be done to reduce tritium emissions from either the L-Reactor or L-related activities? | Mitigation measures | Sections 4.4.3.4, 4.4.5 |
| | (3) Thermal effects.--Present DOE plans call for the direct discharge of the L-Reactor's cooling water into Steel Creek. This leads to several questions. | | |
| AF11 | (a) Potential impacts.--How would both the heat and flooding | Thermal effects | Sections 4.1.1.4, 4.4.2, 4.4.3.4, 5.1.1.2, 5.2.4, 5.2.5.1 |
| AF12 | caused by direct discharge affect both neighboring wetlands and animal life? What data and assumptions lie behind these calculations? | Wetlands effects | Sections 4.1.1.4, 4.4.2, 5.1.1.2, Appendix C, Appendix I |
| AF13 | (b) Mitigation options.--The EIS should contain detailed information on the options available to manage this cooling water. Both interim measures, such as spray cooling, and longer-term options, such as cooling towers, should be dis-cussed. Details should be presented on cost, efficacy, and the time required to install. | Alternative cooling | Section 4.4.2, Appendix I See Comment E6 |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|-------------------|---|---------------------|----------------------------|
| AF14 | (4) Containment.--The reactors at the Savannah River Plant do not have containment domes of the type required at commercial nuclear power plants. The EIS should present a clear description of why this is the case, what technologies are now used to prevent accidental releases of nuclear material, and how much a containment dome for the L-Reactor might cost in terms of time and money. | Safety alternatives | Section 4.4.1, Appendix G |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|---|---------------------|------------------------------------|
| | LETTER OF JOHN MACLEAN, LARRY SPRAGUE, MARY ELLEN SPRAGUE, CAROLYN ROCKWOOD, FERRIS CANN III, AND FRANCES MACLEAN, | | |
| | August 8, 1983 | | |
| | Mr. M. J. Sires, III Assistant Manager for Health, Safety & Environment U.S. Department of Energy Savannah River Operations Office Post Office Box A Aiken, South Carolina 29801 | | |
| | Attention: EIS Scope | | |
| | Dear Mr. Sires: | | |
| | Please include the following comments in your Scope Review hearing testimony: | | |
| AG1 | 1. The EIS should address the degree of urgency and necessity for the production of plutonium by the L-Reactor. In 1980 there were 200 MX missiles proposed which have been cut back to 100 and to the present 27. The need for the new plutonium should be addressed as the code words "urgency" and "national security" should not be allowed to override the concern for safety of the public. | Need | Section 1.1 |
| AG2 | 2. The EIS should address the number of jobs and the amount of | Alternative cooling | Section 4.4.2, Appendix I |
| AG3 | money that will be pumped into the economy by construction of a cooling tower and a containment dome over the L-Reactor. | Safety alternative | Comment E6 Section 4.4.1, 4.4.2 |
| AG4 | 3. The EIS should address the permanent disposal of 27 million gallons of high level waste which presently exists at the Savannah River Plant or at least address the permanent disposal of high level wastes which would be produced by the L-Reactor. | Radioactive waste | Section 4.1.2.8, 5.1.2.8 |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|---|-------------------------|---|
| AG5 | 4. The EIS should address why the L-Reactor is considered an old facility and not a new facility for NRC requirement purposes in view of the fact that \$215,000,000.00 will be spent on the facility. | Regulatory requirements | Chapter 7 |
| AG6 | 5. The EIS should address why the NRC does not inspect the L-Reactor as it does all other commercial nuclear reactors but instead the DOE inspects the facility which it runs. It would appear to be a conflict of interest. | Regulatory requirements | Chapter 7 |
| AG7 | 6. The EIS should address the effect the L-Reactor may have on an increase in cancer rates in Chatham County, Georgia, which are already highest in the state of Georgia, and also the effect the L-Reactor will have on the cancer rate in South Carolina which is three times the national average. | Health effects | Sections 4.1.2.6, 4.2.1.5, 5.1.2.5, 5.2.7, Appendix B, Appendix G |
| AG8 | 7. The EIS should compare the technical and safety requirements for the Vogtle reactor which is across the river from the Savannah River Plant with technical and safety requirements of the L-Reactor. | Regulatory requirements | Chapter 7 |
| AG9 | 8. The EIS should address whether the L-Reactor has the same vapor trap problem that existed at Three-Mile-Island. | Accident analysis | Section 4.2.1, Appendix G Production reactors are different from pressurized water reactors and this is not a credible scenario for the L-Reactor. |
| AG10 | 9. The EIS should address the ability or lack of ability to recycle existing plutonium in existing obsolete bombs presently stockpiled. | Need | Section 1.1 |

Sincerely yours,

John Maclean
Larry Sprague
Mary Ellen Sprague
Carolyn Rockwood
Ferris Cann III
Frances Maclean

cc: Senator Mack Mattingly

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|------------------------------|---|---------------------------|----------------------------|
| LETTER OF WILLIAM McLAUGHLIN | | | |
| | 403 Tattnall Street Savannah, Georgia 31401 August 10, 1983 | | |
| | Mr. M. J. Sires Assistant Manager for Health, Safety and Environment U.S. Department of Energy Savannah River Operation Office P.O. Box A Aiken, S.C. 29801 | | |
| | Dear Mr. Sires: | | |
| | I would like to request that this letter, and the questions that it addresses, be included in the scoping process on the Environmental Impact Statement for the L-Reactor at the Savannah River Plant. | | |
| | The following are areas of grave concern to me as an environmentally concerned resident of Savannah. | | |
| AH1 | Charles R. Jeter, a regional administrator for the Environmental Protection Agency in Atlanta, stated in his testimony before the Armed Services Committee Hearing in North Augusta, South Carolina on February 9, 1983, the EPA's position on the restart and operation of the L-Reactor. Mr. Jeter stated that, "SRP plant officials agree to conduct a comprehensive hydrogeological investigation of the site." I would like to request that this be done as part of the L-Reactor's EIS. | Groundwater contamination | Appendix F |
| AH2 | He also states that, "SRP is in the process of conducting an extensive evaluation of the M-Area to determine if remedial measures are necessary," for the protection of groundwater. I would like to request that this be done as part of the L-Reactor's EIS as an indication of potential problems of the use of seepage basins by the L-Reactor. | Groundwater contamination | Appendix F |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|---|---------------------|---|
| AH3 | Mr. Jeter further states that, "Section 316(b) of the Clean Water Act requires that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing impacts of the aquatic system. This is accomplished through provision in the NPDES permit." I would like to request that the L-Reactor's EIS address how the NPDES permit assures the best available 1983 technology. | Fisheries | Sections 4.1.1.2, 4.4.2, 5.2.4.2, 5.2.5, Appendix C |
| AH4 | Mr. Jeter also presents, as part of the EPA's position, that "Acting under Executive Order 11990, Protection of Wetlands, measures could be implemented by DOE to minimize or compensate for adverse impacts upon wetlands." I would like to request that the L-Reactor's EIS address just what measures have been (or will immediately be) taken to minimize the adverse impacts on wetlands as required by Executive Order 11990. | Wetlands | Sections 4.1.1.4, 4.4.2, 5.1.1.2, 5.2.4, Appendix C, Appendix I |
| AH5 | Mr. Ronald W. Cochran, representing the U.S. Department of the Interior-Fish and Wildlife Service, wrote in a letter concerning his department's review of the Environmental Assessment that "we cannot agree with a finding of no significant impact, and have major problems with several basic tenets of the document." He maintains that the Steel Creek system and associated wetlands have greatly recovered from the effects of operational discharges prior to 1968. Thus I would like to request that the L-Reactor's EIS use current 1983 Steel Creek wetlands conditions as the baseline from which to determine findings of impact, and not the misleading pre 1968 conditions. | NEPA procedures | Chapter 3, Appendix C, Appendix I |
| AH6 | The NUS Corporation's <u>Comparisons and Evaluation of Alternative Cooling Systems for L-Reactor</u> done for the DOE ranks cooling towers as the most preferred option based on engineering and environmental criteria. I would like to request that the L-Reactor's EIS give this cooling tower recommendation option more reasonable and further consideration. In the EA this option was not considered because of the quickly upcoming projected start date. The way I understand it, this projected | Alternative cooling | Section 4.4.2 See Comment E6 |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|-------------------|----------------|------------------|----------------------------|
|-------------------|----------------|------------------|----------------------------|

start up date is in question; and it well should be in question, when we are addressing environmental, health, and safety concerns for the citizens of South Carolina and Georgia.

Thank you, I am anxiously awaiting a response.

Sincerely,

William McLaughlin

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|---|---------------------|--|
| | LETTER OF JANET T. ORSELLI | | |
| | RADIATION AWARENESS P.O. Box 81 Folly Beach, S.C. 29439 | | |
| | August 8, 1983 | | |
| | Mr. M. J. Sires, III Assistant Manager for Health, Safety and Environment U.S. Department of Energy Savannah River Operations Office P.O. Box A Aiken, South Carolina 29801 | | |
| | Dear Mr. Sires: | | |
| | I would like to submit comments from our organization, Radiation Awareness, on the preparation of the Environmental Impact Statement (EIS) for the L-Reactor at the Savannah River Plant (SRP). | | |
| | Radiation Awareness strives to educate the public on nuclear-related issues and provides information on ways the public can protect themselves from radiation hazards. | | |
| AI1 | We have many concerns about the environmental impacts of the L-Reactor restart and want to encourage in-depth study and use of mitigation measures by the Department of Energy (DOE), to decrease environmental damage and serious future health effects. | Mitigation measures | Sections 4.4.1, 4.4.2, 4.4.3, 4.4.4, 4.4.5, Appendix I |
| | We agree that the EIS should at the minimum examine the eleven issues listed in the DOE News of July 19, 1983, and our organization would like to suggest a number of other significant factors that also need to be addressed to assure compliance with the National Environmental Policy Act (NEPA) requirements. | | |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|---|------------------------|---|
| AI2 | Primarily, the EIS needs to provide the public and independent evaluating agencies with data concerning the levels of radiation exposure the public has received over the 25 year operation of SRP. In particular, the EIS needs to evaluate this past amount of nuclear contamination with a consideration of the additional future radioactive discharges to be released from the operation of the L-Reactor. An accounting is needed of the amount of routine or accidental releases of radiation which have occurred during each year of operation of the SRP, and then a total, cumulative radiation exposure level for members of the public during the 25 year period with an estimate of future levels of exposure from the operation of the L-Reactor. The EIS must explain and make justification for the need to increase the amount of nuclear contamination that we, the public will be forced to live with. | SRP & Regional effects | Section 5.2 |
| AI3 | | Need | Section 1.1 See comment D1 |
| AI4 | It is unfortunate that most members of the public are misled and misinformed concerning the long-term health effects of repeated exposure to radiation. The DOE needs to become much more honest with the public and be willing to explain the true health consequences that can result from the long-term ingestion or inhalation of radioactively contaminated particles. It is important that this EIS not downplay the health effects or mislead the public by equating the effects of internal radiation exposure, to the less dangerous type of external radiation exposure, such as riding on airplanes or watching T.V. To regain public confidence--to say nothing of providing that which should have been made available long ago, the EIS should provide the following data: | Health effects | Sections 4.1.2.6, 5.1.2.5, 5.2.7, 6.1.4, Appendix B |
| | 1. Accidental releases of radioactivity reported in accordance with the ERDA Manual-0502 | | |
| | 2. Audits of SRP radioactive waste (from startup to present) | | |
| | 3. Releases of radioactivity at SRP (from startup to present) | | |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|---|---------------------|---|
| | 4. "Monthly Reports" 1951-1981 | | |
| | 5. Two studies done by DOE on the L-Reactor in 1972 and 1977 | | |
| | Without this vital information it would be impossible to seriously evaluate the total, cumulative health effects of the L-Reactor restart. | | |
| AI5 | Another important consideration that needs evaluation in this EIS, is the type of emergency procedures that will be taken to alert South Carolina and Georgia residents of accidental releases of radiation. To our knowledge, throughout the history of SRP operations, the public has never been notified of radiation releases in time enough to take any protective measures. This is a serious deficiency that needs to be addressed in the EIS. An outline of the steps that will be taken to warn the public of radiation exposure, definitely needs to be included. | Emergency planning | Section 4.2.1.3, Appendix H, Appendix G |
| AI6 | In addition, the EIS should provide cost/benefit studies to examine not just on an economic basis, but more importantly on a public health basis, the long-term health benefits of purchasing equipment to reduce radiation health effects by reducing the amount of radiation routinely released. | Mitigation measures | Sections 4.4.1, 4.4.2, 4.4.3, 4.4.4, 4.4.5 |
| AI7 | The EIS should also address what future plans will be made for the permanent disposal of high-level nuclear wastes produced by the L-Reactor. Also a consideration of the resulting costs and health risks of related operations, such as transportation, decommissioning and decontamination. | Radioactive waste | See Comment S1 |
| AI8 | In conclusion, this EIS should contain a consideration of alternatives to the proposed thermal discharge temperatures (such as cooling towers or recirculation systems). Of course, ultimately there needs to be an examination of the alternative to the L-Reactor restart period. Does the need to produce more | Alternative cooling | Section 4.4.2, Appendix I See Comment E6 |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|--|---------------|----------------------------|
| AI9 | <p>nuclear weapons outweigh the potential serious health effects to be suffered by South Carolina and Georgia residents?</p> <p>Please send me a copy of the draft EIS when available.</p> <p>Sincerely,</p> <p>Janet T. Orselli Research Consultant</p> <p>cc: Senator Hollings Senator Mattingly</p> | Need | Section 1.1 |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|--|---------------|----------------------------|
| | LETTER OF S. JACOB SCHERR | | |
| | <p>NATURAL RESOURCES DEFENSE COUNCIL, INC. 1725 I Street, N.W. Suite 600 Washington, D.C. 20006</p> <p>New York Office Western Office 122 East 42nd Street 25 Kearny Street New York, N.Y. 10168 San Francisco, Calif. 94108 212 949-0049 415 421-6561</p> | | |
| | August 9, 1983 | | |
| | <p>Mr. M. J. Sires, III Assistant Manager for Health, Safety, and Environment U.S. Department of Energy Savannah River Operations Office P.O. Box A Aiken, South Carolina 29801</p> | | |
| | Dear Mr. Sires: | | |
| | <p>COMMENTS ON THE SCOPE OF <u>THE L-REACTOR ENVIRONMENTAL IMPACT STATEMENT</u></p> | | |
| | <p>I am writing on behalf of the Natural Resources Defense Council, Energy Research Foundation, The Georgia Conservancy, Coastal Citizens for Clean Energy, Environmental Policy Institute, S. David Stoney, Justin Stephens McMillan, and Judith Gordon, in response to the Department of Energy's Notice of Intent ("NOI"), 48 Fed. Reg. 32966 (July 19, 1983), to initiate the preparation of an Environmental Impact Statement ("EIS"), pursuant to the National Environmental Policy Act of 1969, as amended ("NEPA"), 42 U.S.C. 4321 et seq. and DOE's implementing regulations and guidelines, on the proposed restoration and operation of the L-Reactor at the Savannah River Plant ("SRP") near Aiken, South Carolina.</p> | | |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|----------------|---------------|----------------------------|
|----------------|----------------|---------------|----------------------------|

The above-named organizations and individuals are plaintiffs in the case of NRDC et al. v. Vaughan, C.A. No. 82-3173 (July 15, 1983), which held that the DOE decision of August 21, 1982 not to prepare an EIS on the L-Reactor Project was "arbitrary" and an "abuse of discretion." Thus, they have substantial interest in the preparation and review of an adequate EIS, which has now been ordered by the Court and the Congress.^{1/}

We assume that DOE, in accordance with NEPA, will address clearly and fully the environmental impacts of the L-Reactor, particularly those which have been repeatedly identified as matters of concern in litigation, Congressional and administrative hearings, and statements, letters and other comments of Federal and State officials and technical personnel, and the public. We assume that DOE will make a concerted effort to fill the existing gaps in knowledge regarding the impacts of the L-Reactor which have been previously pointed out and will be discussed briefly below. It is our expectation that DOE, drawing mostly upon studies already completed or underway, will prepare an EIS which is the equivalent to that required for a commercial nuclear reactor, such as those at the Vogtle Nuclear Power Station across the Savannah River from SRP. We anticipate that DOE will give objective consideration to all reasonable alternatives, particularly those other than the one now preferred by DOE. Finally, we hope that DOE will carry out a full and fair NEPA review under the time constraints, which unfortunately here are the result of DOE's failure to properly begin the EIS process more than two years ago.^{2/}

^{1/} The NOI fails to note that DOE's Finding of No Significant Impact regarding the proposed operation of the L-Reactor, 47 Fed. Reg. 36691 (August 23, 1982), no longer has any legal validity as a result of the decision of the Court. Future DOE statements regarding the NEPA process for the L-Reactor should reflect this fact.

^{2/} An NOI to prepare an EIS on the L-Reactor was drafted in Spring 1981, but never published.

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|---|-----------------|---|
| AJ1 | We ask DOE to exercise its discretion and provide the public and Federal and State agencies with a 45-day period for review and comment upon the L-Reactor Draft EIS. Given the serious concerns about the L-Reactor's operation as now proposed, the additional two weeks is necessary to assure a more meaningful opportunity for outside, independent technical review by other Federal agencies, State agencies, and the public. We believe that this request can be accommodated within the five-and-one-half months in which DOE is to complete the NEPA process. | NEPA procedures | Foreword |
| AJ2 | <p>We also request that a hearing be held in Washington, D.C. during the public comment period on the Draft EIS. There is substantial national interest in the L-Reactor, and the decisions on the proposed startup and mitigation measures will ultimately have to be made by DOE and Congress in Washington. A hearing there would serve two important public interests recognized by NEPA. It would foster public participation in the EIS process and would contribute to a better-informed decision on the L-Reactor.</p> <p>Our specific comments on the proposed scope of the EIS are as follows:</p> <p><u>NEED FOR THE L-REACTOR</u></p> | NEPA Procedures | Public hearings will be held in S.C. and Georgia. |
| AJ3 | The Draft EIS should contain a detailed justification for the proposed startup of the L-Reactor, particularly in regard to its timing which has bearing on the operational alternatives which would eliminate or reduce the environmental harm and hazard associated with its proposed operation. In light of public statements of DOE officials and changes in warhead requirements as a result of Congressional and Administration decisions, there appear to be substantial questions as to the immediacy of the need for the plutonium to be produced by the L-Reactor. DOE representatives have repeatedly testified before Congressional committees that the L-Reactor is needed to meet a possible shortfall in nuclear weapon materials in the early 1990s. Furthermore, as a result of other production initiatives, DOE is now already ahead of its targets to boost the production of these materials. Finally, Congress and the | Need | Section 1.1 |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|---|------------------------|----------------------------|
| | <p>Administration have also apparently reduced the number of warheads scheduled to be produced over the next five years.^{3/}</p> <p>Recently the House Armed Services Committee found that "there is no basis to assume that large numbers of nuclear weapons will be produced in the years beyond 1990."^{4/}</p> <p><u>ALTERNATIVES</u></p> <p><u>Production Alternatives</u></p> | | |
| AJ4 | <p>The Draft EIS should consider as a reasonable alternative a delay in the operation of the L-Reactor for an extended period to allow the implementation of "mitigation alternatives" combined with, if necessary, one or more of the following alternatives:</p> <ol style="list-style-type: none"> 1. Boosting throughput at the SRP reactors and the N-Reactor, 2. Accelerating the recovery of nuclear materials from the retirement of obsolete warheads, 3. Accelerating development of a new production reactor, | Alternative production | Section 2.1 |
| | <p>^{3/} As one example, the number of warheads for the MX missiles which are now scheduled to be deployed has been reduced from approximately 2000 to 1000. The New York Times, January 16, 1983, reported a DOE official as stating that the L-Reactor will produce each year enough plutonium for some 75 nuclear warheads. Thus, the reduction in the MX program alone suggests that the operation of the L-Reactor may be substantially delayed without risk to our nation's security in order to allow for the implementation of mitigation measures prior to startup.</p> <p>^{4/} See, e.g., Greenville (S.C.) New, June 7, 1983, at 1-A.</p> | | |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|--|---------------------|----------------------------|
| | <p>4. Accelerating developing of special isotope separation, and</p> <p>5. Acquiring plutonium from a foreign source.</p> <p>In regard to the first, DOE now plans to install the Mark 15 core in one of the SRP reactors, an action which will increase its plutonium production by approximately 25%. The Draft EIS should address the possibility of the use of such cores in one or more additional reactors on an expedited schedule.</p> <p>In order to provide a rational basis for the choice among the various reasonable production alternatives, including the one of "delay/mitigation," the Draft EIS must provide and disclose to the public, to the fullest extent possible, the following information:</p> <ol style="list-style-type: none"> 1. Identification of each material production alternative through 1995. 2. Identification by year of the Plutonium-equivalent production capability of each alternative. 3. Identification for each year of the Plutonium-equivalent inventory, stockpile, and future requirements. 4. Indication of precisely which, if any, weapons systems or warheads would have to be delayed if the L-Reactor operation was postponed one, two, three or four years. 5. Indication of whether and how a delay in L-Reactor operation of one or two years would affect the production of warheads already scheduled to 1988, or Plutonium contingency needs in the "out years." <p><u>Safety System Alternatives</u></p> | | |
| AJ5 | In addition to those mentioned in the NOI, the Draft EIS should consider, to the extent that they have not already been adopted, the following safety alternatives as earlier identified by SRP staff: Detritiation of moderator, Disassembly basin | Safety alternatives | Sections 4.4.1, 4.4.5 |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|--|---|---------------------|---|
| | <p>air confinement, Disassembly basin purge containment, Containment of ECS water in 50m basin, and Heat exchangers.^{5/}</p> <p><u>Cooling Water Alternatives</u></p> | | |
| AJ6 | <p>The Draft EIS, unlike DOE's earlier Environmental Assessment ("EA"), should fully disclose both the capital and operational costs of each of the alternatives. It should provide complete documentation of the costs and scheduling for each such alternative in order to permit their meaningful outside review. For example, it has been suggested that a cooling tower for the L-Reactor could be constructed for much less money and much more quickly than as estimated in the EA.^{6/}</p> <p><u>Other Mitigation Alternatives</u></p> | Alternative cooling | Section 4.4.2, Appendix I See Comment E6 |
| AJ7 | <p>In addition to the liquid waste disposal alternatives mentioned in the NOI, the Draft EIS should consider, to the extent that they have not already been adopted or foreclosed, the following alternatives also identified earlier by SRP staff:^{7/}</p> <p>Alternative Steam Supplies</p> <ul style="list-style-type: none"> (1) Coal-fired boiler at L (2) K to L steam line with back-up oil-fired boiler <p>186 Basin Sludge Removal</p> <ul style="list-style-type: none"> (1) Landfill (2) Borrow Pit | Mitigation measures | Section 4.4 |
| <p>^{5/} See Attachment 1 to Memorandum from R. P. Denise, Deputy Manager, SRP, dated August 13, 1981, to F. C. Gilbert, Acting Deputy Assistant Secretary for Nuclear Materials Production, DOE.</p> <p>^{6/} See 129 Cong. Rec. S10004, July 14, 1983: Statement of Senator Hollings.</p> <p>^{7/} See Attachment to Denise Memorandum, <u>supra</u> note 5.</p> | | | |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|--|--------------------|---|
| | <p>Water Intake Structures</p> <ul style="list-style-type: none"> (1) Modify existing intake structures (2) Reduce pumping capacity <ul style="list-style-type: none"> (a) Recirculating cooling system (pond) <p>Chlorine Tank</p> <ul style="list-style-type: none"> (1) Detection Device (2) Nongaseous Sources of Chlorine (3) Move Tanks/Well Enclosure <p><u>IDENTIFICATION OF ENVIRONMENTAL ISSUES</u></p> <p><u>Socioeconomic</u></p> | | |
| AJ8 | The Draft EIS should consider not only employment and other related benefits in South Carolina and Georgia associated with the proposed operation of the L-Reactor, but also the costs. The L-Reactor may contribute to a drain of skilled and technical personnel away from private employers in the region. | Socioeconomics | Sections 5.1.1.1, 5.2.1, Appendix G |
| AJ9 | The socioeconomic effects in the larger Savannah River Basin of accidental releases of radiation and water contamination should also be assessed. An accident could have serious implications for economic development in the region, particularly those areas downstream and downwind of SRP. | Accident analysis | Section 4.2.1, Appendix G |
| | <u>Endangered Species</u> | | |
| AJ10 | DOE should make every effort to facilitate the completion of the consultation with the U.S. Fish and Wildlife Service, pursuant to Section 7 of the Endangered Species Act, in regard to the endangered species which may be affected by the proposed startup of the L-Reactor. The Draft EIS should include also the biological evaluation and the development of mitigation measures for species of "special concern" to the State of South Carolina. | Endangered species | Sections 3.6.1.4, 3.6.2.3, 4.1.1.4, 7.3, Appendix C |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|-----------------------------|---|----------------------------|--|
| <u>Fisheries</u> | | | |
| AJ11 | The Draft EIS should reflect the results of fisheries studies which SRP requested in late 1981 that DuPont prepare to demonstrate the adequacy of SRP cooling water intake structures to meet the requirements of Sec. 316b of the Clean Water Act. In addition, the effects of increased thermal effluents on the Savannah River at the point where they enter the river should be studied and disclosed. The Draft EIS should consider the combined effects upon fisheries of SRP and the Vogtle Nuclear Power Station. In addition to the endangered short-nose sturgeon, attention should be focused upon the American shad, a commercially important fish, and the blueback herring, which is listed as a species of "special concern" by the State of South Carolina. | Fisheries | Sections 5.2.5, 6.1.2, 6.2.4, Appendix C |
| AJ12 | | Thermal effects | Sections 4.1.1.4, 4.4.2, 4.4.3.4, 5.1.1.2, 5.2.4, 5.2.5.1 |
| AJ13 | | Fisheries | Sections 3.6.2.3, 4.1.1.4, Appendix C |
| <u>Surface Water Usage</u> | | | |
| AJ14 | The Draft EIS should describe the increase in the withdrawal of Savannah River water for cooling purposes at SRP and any indications of existing and potential conflicts in the use of this resource, such as the proposed hydroelectric facility on the Augusta canal. The adequacy of river flow under drought conditions should also be addressed. | Surface water usage | Sections 4.1.1.2, 5.2.2, 5.1.1.4, Appendix D |
| AJ15 | | Alternative cooling | Section 4.4.2, Appendix I See Comment E6 |
| <u>Radiological Effects</u> | | | |
| AJ16 | The dose commitments from the routine operation of the L-Reactor, including those from radiocesium transport, and from L-Reactor accidental releases should be measured by the same standards and methodology applied to commercial nuclear reactors. The Draft EIS should clearly identify where those standards, namely 10 CFR Parts 50 and 100, would be exceeded by the L-Reactor and by SRP as a multi-reactor site. In regard to the cesium discharges, it should evaluate the concentration of cesium by waterfowl and fish, particularly the American shad, and the effectiveness of cesium-137 removal by water treatment. | Radiological effects | Sections 4.2.1, 5.1.2, 5.2.6, Appendix B, Appendix D, Appendix G |
| AJ17 | | Regulatory requirements | Chapter 7 See Comment B7. |
| AJ18 | | Radiocesium remobilization | Sections 3.7.2, 4.1.2.4, 4.2.4, Appendix B, Appendix D |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|-----------------------------------|--|---------------------------|--|
| <u>Safety</u> | | | |
| AJ19 | The Draft EIS should fully analyze the impacts of all possible reactor accident sequences, including so-called Class 9 accidents, as is required for all commercial nuclear reactors and using the same methodology. It should analyze the environmental, social, and economic effects of accidents up to a full core meltdown. The detailed quantitative analyses, which are needed to support probabilistic estimates of radioactive releases, should be incorporated into the EIS or referenced therein and made freely available to all interested parties. The Draft EIS should include a liquid pathways assessment to analyze the effects of L-Reactor accidental releases upon ground and surface waters, as well as drinking water drawn from the Savannah River. | Accident analysis | Section 4.2.1, Appendix G |
| <u>Ground-water Contamination</u> | | | |
| AJ20 | The Draft EIS should contain a clear explanation of the sources and consequences of the existing ground-water contamination at SRP. It should provide full documentation as to the possible movement of contaminants from superficial to deep aquifers. | Groundwater contamination | Sections 4.1.2.2, 4.4.3, 5.1.1.2, 5.1.1.4, 5.2.3, Appendix F |
| AJ21 | The discussion in the Draft EIS should provide a basis for selection of an alternative to the presently outdated reliance on seepage basins. It should specify whether present SRP | Seepage basins | Section 4.4.3 |
| AJ22 | chemical waste disposal procedures conform with the legal requirements of the Resource Conservation and Recovery Act and its implementing regulations. If not, the Draft EIS should detail the steps that will be taken to bring the L-Reactor and SRP into compliance. | Regulatory requirements | Chapter 7 |
| <u>Radioactive Wastes</u> | | | |
| AJ23 | The Draft EIS should describe the incremental increase in the production of high-level liquid and other radioactive wastes which would result from the proposed operation of the L-Reactor. It should specify what additional commitments of resources would be thus required for the storage and disposal of such wastes, including the construction of more liquid radioactive storage tanks at SRP. The Draft EIS should clearly | Radioactive waste | Sections 4.1.2.8, 5.1.2.8 |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|-------------------|----------------|------------------|----------------------------|
|-------------------|----------------|------------------|----------------------------|

indicate whether the operation of the L-Reactor will result in prolonging the use of older storage tanks at SRP, particularly the single-walled type, two of which have leaked in the past.

*** **

If we can provide further information in regard to these comments, please let me know.

Sincerely yours,

S. Jacob Scherr

Attorney for
Natural Resources Defense Council
Energy Research Foundation
The Georgia Conservancy
Coastal Citizens for Clean Energy
Environmental Policy Institute
S. David Stoney
Justin Stephens McMillan
Judith Gordon

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|---|-------------------|--|
| | LETTER OF THE HONORABLE LINDSAY THOMAS | | |
| | MEMBER OF CONGRESS, FIRST DISTRICT, GEORGIA CONGRESS OF THE UNITED STATES House of Representatives Washington, D.C. 20515 | | |
| | August 8, 1983 | | |
| | Mr. M. J. Sires, III U.S. Department of Energy Savannah River Operations Office Post Office Box A Aiken, South Carolina 29801 | | |
| | Dear Mr. Sires: | | |
| | Please be advised that this presents my additional comments for the Environmental Impact Statement being prepared now in conjunction with the proposed restart of the L-Reactor at the Savannah River Plant (SRP). It is my understanding that my previous statement delivered on February 9, 1983, at the Senate Armed Services Committee hearing in North Augusta, S.C., will also be made part of the EIS record. I am enclosing an additional copy of that statement for reference. | | |
| | As the Representative for the people of the First Congressional District, my comments will focus on the impact of the L-Reactor and the SRP to the health and safety of the 20 counties of the First District. | | |
| AK1 | I oppose the restart of the L-Reactor if, in the judgement of | Health effects | Sections 4.1.2.6, 4.2.1.5, 5.1.2.5, 5.2.7, Appendix B, Appendix G Sections 4.2.1, 4.1.1, Appendix G |
| AK2 | the appropriate officials of the State of Georgia, this action presents danger to the health and safety of the people of our state. Georgia officials should have access to all relevant data regarding operational proposals of the SRP as required to assess any health and safety issue which may affect our state. | Accident analysis | |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|---|---------------------------------|---|
| AK3 | <p>I further urge that the EIS on the L-Reactor include an issue which I believe is of even potentially greater import than the L-Reactor. This issue is the cumulative impact of operational expansions of the SRP in combination with the vast array of other nuclear facilities in the Savannah River Basin.</p> <p>The Savannah River Basin continues to become an area of major concentration of nuclear facilities. However, no scientific or environmental evaluation has been made to consider the appropriateness of this buildup. This trend is totally inappropriate for our area due to the extraordinary sensitivity of the local environment and the high population density.</p> <p>The Savannah River Basin now is home to the Chem-Nuclear, Inc. Radioactive Waste Disposal Facility in Barnwell County, South Carolina; the Allied General Nuclear Services-Barnwell Fuel Plant, and commercial nuclear power facilities. The area is the repository for one-third of the defense high-level nuclear waste in the nation.</p> <p>As I stated in my remarks in North Augusta, it is my objective to establish a Federal-State Task Force on the Savannah River Basin which would include the Nuclear Regulatory Commission, the Department of Energy, the Environmental Protection Agency, and the States of Georgia and South Carolina. The organization could provide the oversight necessary to control any proposed cumulative impact, rather than each proposal being handled on a piecemeal basis with no oversight coordination. This would also eliminate the frequent criticism of SRP as being apart from the kind of oversight which is required for private or non-DOE Federal nuclear facilities.</p> | SRP & Regional effects | Section 5.2 |
| AK4 | Pending action on such a task force organization, the EIS on the L-Reactor must include a careful analysis of the impact of the restart of the L-Reactor as an additional source of potential nuclear danger in an area which already has more than its share of such facilities. The EIS should include analysis of present and planned nuclear facilities, both private and government, in the Savannah River Basin. The analysis should consider the possibility that the level of activity at nuclear facilities in the area may have to be curtailed in proportion to an increase in activities at the SRP. | Radiological effects | Sections 4.2.1, 5.1.2, Appendix B, Appendix D, Appendix G |
| AK5 | | Cumulative radiological effects | Sections 5.1.2, 5.2.6 |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|--|--------------------------------------|------------------|----------------------------|
| Thank you for your cooperation in including these remarks in your record. | Sincerely, | | |
| | Lindsay Thomas Member of Congress | | |
| Enclosure | | | |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|---|---------------|----------------------------|
| | LETTER OF RUTH THOMAS | | |
| | ENVIRONMENTALISTS INC. 1339 Sinkler Road Columbia, S.C. 29206 (803) 782-3000 | | |
| | August 8, 1983 | | |
| | Mr. M. J. Sires, III Assistant Manager for Health, Safety and Environment U.S. Department of Energy Savannah River Operations Office Post Office Box A Aiken, South Carolina 29801 | | |
| | Re: Preparation of an EIS on the proposed restarting of the L-Reactor at the SRP | | |
| | Dear Mr. Sires: | | |
| | In the attached Comments, Environmentalists, Inc. has high- lighted some of the failures in the <u>Environmental Assessment</u> <u>L-Reactor Operations, Savannah River Plant.</u> | | |
| | <i>Consideration of Costs/Benefits and consideration of Alterna-</i> <i>tives were selected as subjects for our Comments, because the</i> <i>National Environmental Policy Act (1969) identifies these</i> <i>matters as crucial to a federal agency's complying with this</i> <i>law's mandate of taking environmental values into account "to</i> <i>the fullest extent possible."</i> | | |
| | The public will be expecting the Department of Energy to cor- rect the deficiencies of the <u>Environmental Assessment</u> report when the agency prepares an <u>Environmental Impact Statement</u> | | |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|-------------------|---|------------------|----------------------------|
| | <p>related to the proposed restart of the L-Reactor at the Savannah River Plant.</p> <p>Sincerely,</p> <p>Ruth Thomas Authorized Representative</p> <p>Enclosure cc: Interested persons and organizations</p> | | |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|--|---------------------------------|--|
| | ENCLOSURE OF RUTH THOMAS | | |
| | ENVIRONMENTALISTS INC. 1339 Sinkler Road Columbia, S.C. 29206 | | |
| | August 8, 1983 | | |
| | COMMENTS highlighting A NUMBER OF FAILURES IN THE "ENVIRONMENTAL ASSESSMENT, L-REACTOR OPERATIONS, SAVANNAH RIVER PLANT" WHICH SHOULD NOT BE REPEATED IN THE ENVIRONMENTAL IMPACT STATEMENT PREPARED BY THE DEPARTMENT OF ENERGY | | |
| K-114 | A. Failure to provide adequate evidence regarding the costs (damage to the environment and the public's health) of adding to the amount of nuclear contamination released by the proposed restart of the L-Reactor. For example: | | |
| AL1 | 1. Failure to report thoroughly on <u>any</u> and <u>all</u> radioactive releases which have occurred since operations began at the Savannah River Plant (SRP) in the 1950's. | Radiological effects | Section 5.1.2, 5.2.6 |
| AL2 | 2. Failure to give adequate attention to the fact that for more than 25 years people living in the SRP region have been continuously subjected to the routine releases of nuclear contamination, a type of poison whose damaging effects are cumulative. | Health effects | Sections 3.7.1, 4.1.2.6, 4.2.1.5, 5.1.2.5, 5.2.7, Appendix B |
| AL3 | 3. Failure to fully acknowledge the cumulative aspect of radiation exposure, particularly in terms of its harmful effects due to internal exposure resulting from the inhaling of radioactive particles and the ingesting of radioactively contaminated liquids and foods. | Cumulative radiological effects | Sections 5.1.2, 5.2.6, Appendix B |
| AL4 | 4. Failure to provide adequate data for predicting where the concentration of nuclear contamination from SRP's radioactive releases is most likely to exist. | Radiological effects | Sections 4.2.1, 5.1.2, Appendix B, Appendix D |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|---|------------------------|--|
| AL5 | 5. Failure to provide adequate evidence to support the selection of a monetary value for the worth of a life and a monetary value to represent the loss of a person's health. | Radiological effects | Section 4.4.1.6, Appendix B, Appendix G |
| AL6 | 6. Failure to provide the evidence necessary to predict | Radiological effects | Sections 4.2.1, 5.1.2, 5.2.6, Appendix B, Appendix D |
| AL7 | the impact which additional radioactive and thermal pollution is likely to have on the availability of adequate uncontaminated water for present residents and businesses of the region as well as in terms of pure water sources for future growth. | Thermal effects | Sections 4.1.1.4, 4.4.2, 4.4.3.4, 5.2.4, 5.2.5.1 |
| | B. Failure to provide adequate evidence regarding the benefits of restarting the L-Reactor: | | |
| AL8 | 1. Lack of evidence to support the view that more nuclear weapons would reduce the probability of there being an atomic war. | Need | See Comment D1 |
| AL9 | 2. Lack of evidence to refute the view that increasing the production of nuclear weapons would increase the probability of there being an atomic war. | Need | See Comment D1 |
| | C. Failure to adequately study, develop and describe alternatives to the restart of the L-Reactor as this operation is being proposed: | | |
| AL10 | 1. Failure to provide adequate evidence regarding the alternative of delaying the restart of the L-Reactor. | Alternative production | Section 2.3 |
| AL11 | 2. Failure to provide adequate evidence regarding the alternative of updating the once through cooling water proposal, in terms of reducing the flushing of radioactive contamination into water sources, in terms of using large quantities of water for cooling, in terms of reducing destruction of plant and animal life. | Alternative cooling | Section 4.4.2 See Comment E6 |
| AL12 | 3. Failure to provide adequate evidence regarding the alternative of a new reactor. | Alternative production | Section 2.1 |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|--|---------------|----------------------------|
| AL13 | <p>4. Failure to study, develop and describe alternatives to producing more nuclear weapons, such as increasing peace efforts and reducing the production of nuclear weapons.</p> <p>Respectfully submitted by,</p> <p>Ruth Thomas Authorized Representative</p> | Need | See Comment D1 |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|-------------------|---|------------------|----------------------------|
| | <p>LETTER OF THE HONORABLE STROM THURMOND</p> <p>THE PRESIDENT PRO TEMPORE UNITED STATES SENATE</p> <p>August 4, 1983</p> <p>Mr. Richard P. Denise Acting Manager Department of Energy Savannah River Operations Office Post Office Box A Aiken, South Carolina 29801</p> <p>Dear Mr. Denise:</p> <p>Thank you for your invitation to participate in the scoping process associated with the expedited Environmental Impact Statement (EIS) for the restart of the L-Reactor at the Savannah River Plant in Aiken, South Carolina.</p> <p>While I do not plan to actively participate in the scoping process, I wish to take this opportunity to briefly comment on several aspects of the L-Reactor EIS and to summarize for the record my involvement with this issue.</p> <p>As you know, my involvement with the Savannah River Plant site, its programs, and the L-Reactor restart has been extensive. For many years I have worked for effective national defense programs at the site while seeking the fullest protection for the health and safety of citizens in the surrounding area and for the environment.</p> <p>When environmental concerns regarding the L-Reactor were raised, I arranged for the Senate Armed Services Committee to hold a field hearing in North Augusta, South Carolina, and chaired that hearing. Subsequently, along with Senator Mattingly, I secured written commitments from Secretary Hodel to: (1) undertake a further public review and hearing process to thoroughly brief the public on plans for the reactor restart and to answer questions from the public; (2) conduct further</p> | | |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|---|-----------------|---|
| | <p>thermal studies for all Savannah River Plant effluent streams as they impact on the Savannah River; (3) conduct comprehensive epidemiological studies associated with the L-Reactor restart; and (4) operate the L-Reactor within the limits set by the environmental assessment or modify operations as necessary to achieve compliance. I sent a staff representative to each of the eight additional public hearings held in South Carolina and Georgia that were conducted by the Energy Department in fulfillment of the first of Secretary Hodel's commitments to me and Senator Mattingly.</p> <p>As you are aware, I have recently supported three important amendments regarding the Savannah River Plant site. The first, an amendment to the FY 1984 Energy and Water Appropriations bill, requires the Energy Department to complete an expedited EIS on the L-Reactor. While I do not feel an EIS at this juncture will be particularly enlightening or productive, I supported that amendment because it improved an earlier proposal and offered an opportunity to facilitate the restart of the L-Reactor with a minimum delay. Now that an EIS has been mandated, both by Congress and a Federal District Court decision, I urge the Energy Department to make a thorough and complete study which will withstand the test of sufficiency and thereby avoid the possibility of further delays in restart.</p> | | |
| K-118 AM1 | | NEPA procedures | Foreword |
| AM2 | <p>A second amendment was offered by me in the Senate Armed Services Committee during markup of the 1984 Department of Defense Authorization bill. It requires the Department of Energy to phase out some of its seepage basins and to clean up any existing chemical contaminants that may threaten our important groundwater resources. I would like to commend the Department of Energy for identifying this problem in a timely manner and for cooperating in seeking a responsible solution. I suggest that the relationship between the L-Reactor restart and the chemical groundwater contamination problem be addressed in the EIS to establish whether or not these issues are closely linked.</p> <p>The third amendment, also an amendment to the 1984 Department of Defense Authorization bill, requires mitigation of the thermal effects associated with the L-Reactor as soon as practical and prior to restart unless the President determines that</p> | Groundwater | Sections 4.1.2.2, 4.4.3, 5.1.1.2, 5.1.1.4, Appendix F |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|--|---------------|----------------------------|
| | the delay involved will jeopardize national security. I supported that amendment, which the Department of Energy requested, as a reasonable approach to addressing both the environmental and national security concerns. | | |
| AM3 | <p>In addition, I wish to take this opportunity to encourage the Department of Energy to continue its careful monitoring of the operations at the site and to continue seeking operational improvements that will enhance the protection of our citizens and the environment. I hope that the Department of Energy will strive for increased public understanding of site operations because I believe that openness and factual information are the keys to public trust. In return, the Department of Energy may remain assured of my continued strong support and cooperation with respect to the Savannah River Plant programs.</p> <p>With kindest regards and best wishes,</p> <p>Sincerely,</p> <p>Strom Thurmond</p> | Monitoring | Sections 6.1, 6.2 |
| | ST/jjd | | |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|--|---|-------------------------|---|
| LETTER OF ELWIN R. TILSON | | | |
| <p>206 E. Liberty St. Savannah, GA 31401 August 10, 1983</p> <p>M. J. Sires, III Asst. Manager for Health, Safety, and Environment Savannah River Operations Office P.O. Box A Aiken, S.C. 29801</p> <p>Dear Mr. Sires:</p> <p>I am requesting that this letter be included in the Scoping process for the EIS being done on the L-Reactor. The following are areas of concern that I want addressed in the EIS:</p> | | | |
| AN1 | 1. DOE documents indicate that 10,500 Ci of Tritium will be dumped into seepage basins from the L-Reactor in addition to substantial amounts of toxic wastes. Please address the long term effects of seepage basin usage to ground water and surface water sources. | Seepage basins | Section 4.4.3 |
| AN2 | 2. DOE documents indicate that 7,800 acres of emergent wetlands adjacent to the river are on the SRP. Presently, 5,000 acres of wetlands have been seriously altered or destroyed and another 1,000-1,100 acres will become a "sacrifice zone" with the restart of the L-Reactor. Please see how such extensive alteration or destruction of wetlands can be declared as NSI. | Wetlands | Sections 4.1.1.4, 4.4.2, 5.1.1.2, 5.2.4, Appendix C, Appendix I |
| AN3 | 3. New standards for airborne radioisotopes were due to be published on March 29, 1983. What effect do the new standards have on the operation of the L-Reactor and how will the DOE meet them? | Regulatory requirements | Chapter 7 |
| AN4 | 4. NEPA 43FR230 Sec 433.1 states that the operating facility must "restore and maintain environment." How can the | Endangered species | Sections 3.6.1.4, 3.6.2.3, 4.1.1.4, Appendix C |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|---|----------------------|--|
| | proposed destruction of 1,100 acres of wetland used by four species of threatened or endangered animals meet the NEPA requirements? | | |
| AN5 | 5. A study done by the NUS Corporation indicated that the use of Steel Creek as a discharge/cooling system would be the most expensive to maintain, cause the greatest Cs137 transportation, make the greatest demands on Savannah River flow rates, be one of the highest sources of liquid effluent, have the highest impact on the environment, have the highest impact on endangered or threatened species, and have a high impact on archaeological resources. Please address how such costly option can be justified for use with the L-Reactor reactivation. | Alternative cooling | Section 4.4.2 See Comment E6 |
| AN6 | 6. The Savannah River Ecology Lab reports (SREL-9, UC66e & SREL-11, UC66e) state that "additional study is needed to determine wetland degradation on migratory fish" before the L-Reactor is restarted. Please include such studies in the EIS. | Fisheries | Section 6.2.5 |
| AN7 | 7. The SREL reports also state that "spring (season) studies are needed" before the restart of the L-Reactor. Please include such studies in the EIS. | Fisheries | Section 6.2.5 |
| AN8 | 8. The EA misquotes the SREL-11 report in that the EA gives bioaccumulation a rating of 2,019. The SREL-11 report states that the rating is <u>conservatively</u> 3,000 and can be as high as 6,000 for large game fish. Please review the use of support documents used in the EA before using in the EIS and also address why bioaccumulation discrepancies occurred. | Radiological effects | Appendix B |
| AN9 | 9. NCR criteria 10 CFR part 100 require containment domes for <u>all</u> commercial reactors as a minimum safety system. Please <u>address</u> how the L-Reactor be declared acceptably safe without a requirement necessary for most reactors in this country. | Safety alternatives | Section 4.4.1.5 |
| AN10 | 10. Please address how the L-Reactor operation can be considered in compliance with the concept of ALARA as outlined by the NCRP when large amounts of Cs137 and Tritium are routinely dumped into the environment. | Radiological effects | Section 4.2.1, 5.1.2, Appendix B, Appendix G |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|---|----------------------------|-----------------------------|
| AN11 | 11. DuPont studies indicate that the reactor type used in L-Reactor has a history of coolant pipe leakage which would cause meltdown. Please address how the L-Reactor design has been modified to offset this historical problem. | Accident analysis | Section 4.2.1, Appendix G |
| AN12 | 12. Please include an independent safety review of the L-Reactor within the EIS. | Accident analysis | Section 4.2.1.2 |
| AN13 | 13. The EA ignored a worst case study done by DuPont (EID L-Reactor Reactivation, p. 5-28: DPST-81-241, April 1982). The Du Pont study indicate that public dose rates to the thyroid from a worst case accident would be unacceptably high. Please include this study in calculations used in the EIS. | Accident analysis | Section 4.1.2.5, Appendix D |
| AN14 | 14. Please address the validity of radioisotope remobilization in Steel Creek in light of the constant changes in the levels reported with each different recalculation. | Radiocesium remobilization | Section 4.1.2.4, Appendix D |
| AN15 | 15. All accident probability calculations in the EA were based on single safety system failures. Please include multiple system failures when calculating accident probabilities in the EIS. | Accident analysis | Section 4.2.1, Appendix G |
| AN16 | 16. DPST-81-241, April 1982 states that radiocesium remobilization in Steel Creek would give a maximum individual dose of 10.5 mrem/yr. The EA states the MID would be only 5 mrem/yr. Please address this discrepancy and reanalyze data and assumptions used. | Radiocesium remobilization | Section 4.1.2.4, Appendix D |
| AN17 | 17. NPDES permits do not allow the SRP to increase the temperature of the Savannah River by the 1.25-1.5 degrees which will occur when the L-Reactor comes on line. Please address how SRP will keep within NPDES limits. | Thermal effects | Sections 4.1.1.4, 7.2.4 |
| AN18 | 18. No study has been done on the thermal effects at the mouth of Steel Creek which is a major sports fishing area. Please include such studies in the EIS and also include thermal monitoring closer than the present six miles downstream. | Thermal effects | Section 5.2.5.1 |
| AN19 | 19. No study has been done on thermal plumes. Please include such studies in the EIS. | Thermal effects | Sections 4.1.1.4, 5.2.4.2 |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|--|---------------------------------|--|
| AN20 | 20. No study has been done on the <u>long term</u> effects of accumulation of radionuclides in the Beaufort-Jasper water system. Please include such a study in the EIS. | Cumulative radiological effects | Sections 5.1.2, 5.2.6 |
| AN21 | 21. The EA states that it assumes that there was "complete mixing in the river" of radiocesium when dose rates were calculated. This assumption needs reevaluation as it ignores accumulation of radiocesium in the environment and also does not take into consideration actual mixing processes in rivers. Please address this discrepancy and re-evaluate calculations. | Radiocesium remobilization | Sections 4.1.2.4, Appendix B, Appendix D |
| AN22 | 22. Evaluate the environmental (specifically radiologic) impact of the restart of the L-Reactor <u>in conjunction</u> with existing impacts from other facilities at the SMP. | Cumulative radiological effects | Sections 5.1.2, 5.2.6 |
| | Your attention to these concerns in the EIS is appreciated. | | |

Elwin R. Tilson

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|---|---|-------------------------|----------------------------|
| LETTER OF ALFRED H. VANG | | | |
| EXECUTIVE DIRECTOR STATE OF SOUTH CAROLINA WATER RESOURCES COMMISSION P.O. Box 50506/1001 Harden Street, Suite 250 Columbia, S.C. 29250 (803) 758-2514 | | | |
| August 9, 1983 | | | |
| Mr. M. J. Sires, III Assistant Manager for Health, Safety and Environment U.S. Department of Energy Savannah River Operations Office P.O. Box A Aiken, South Carolina 29801 | | | |
| Dear Mr. Sires: | | | |
| The South Carolina Water Resources Commission staff has prepared the following comments for inclusion in the scoping process for the L-Reactor Restart Environmental Impact Statement. Please consider these comments and suggestions in your development of the Draft EIS. | | | |
| A01 | 1. Within limits imposed by national security considerations, we feel the EIS should provide a solid justification of the actual need for L-Reactor restart. The requirement for additional nuclear materials should be clearly documented. | Need | Section 1.1 |
| A02 | 2. All State and Federal regulatory requirements pertinent to restart should be indicated along with DOE's intentions and methods to comply with these requirements. If there are any regulatory requirements which apply to private industrial facilities with similar potential impacts but do not apply to L-Reactor, these should be indicated along with the authorization for exemption. Any areas of L-Reactor operation which are not regulated by a State or Federal agency other than DOE should be identified. | Regulatory requirements | Chapter 7 |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|---|-------------------------|--|
| A03 | 3. It is the position of the Water Resources Commission that the L-Reactor should be in compliance with State water quality standards for temperature at the time of initial restart. The EIS should clearly indicate if, how, and when this compliance will be accomplished. | Regulatory requirements | Chapter 7 |
| A04 | 4. The EIS should contain a thorough evaluation of the effect of operation on surface water use throughout the Savannah River Basin. Surface water availability along with current and projected water uses, diversions, and interbasin transfer should be included in this evaluation. Since Savannah River flows of less than the 7Q10 level have occurred in the recent past, consideration of these low flows should be included in the evaluation. The consumptive loss of water due to L-Reactor alone, and in combination with other SRP operations, should be assessed. | Surface water use | Sections 4.1.1.2, 5.1.1.4, 5.2.2 |
| A05 | 5. In assessing the impacts of restart, baseline environmental conditions considered should be those existing prior to the 1954-1968 period of previous operation. It is obvious from the Environmental Assessment that significant adverse impacts occurred during 1954-1968, with some recovery occurring since L-Reactor shut-down in 1968. We do not feel it legitimate to compare expected impacts of restart with the earlier period of documented environmental damage. The real issue is how the restart effects will differ from those that would exist if L-Reactor had never been constructed or operated. | NEPA procedures | Section 3.6, Appendix C |
| A06 | 6. Assessment of all restart impacts upon onsite environmental conditions and natural resources should be clearly related to corresponding effects on offsite conditions and resources. For example--what effect would the loss of fish and wildlife habitat in Steel Creek and associated wetlands have on fish and wildlife populations offsite? | Wetlands impacts | Sections 4.1.1, 4.4.2, 5.1.1.2, 5.2.4, Appendix C, Appendix I |
| A07 | 7. All releases and resuspensions of radioactive materials, whether routine or accidental, should be thoroughly addressed with regard to impacts on the environment and human populations. L-Reactor releases should be assessed in view of all other existing and potential sources of radioactive releases. Individual sources of release may not be considered significant, but the cumulative effect of multiple releases may be of | Radiological effects | Sections 4.2.1, 5.1.2, 5.2.6, Appendix B, Appendix D, Appendix G |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|--|---------------------------|--|
| A08 | <p>concern. It should be pointed out that there is no totally safe radiation dose level and that adverse biological effects, such as genetic effects can occur from even minute amounts of radiation. The assessment of radiological impacts should include a discussion of relevant regulations and standards and how these regulations and standards compare with those imposed on private industry.</p> | Regulatory requirements | Chapter 7 |
| A09 | <p>8. Our staff has the following specific ground water concerns relevant to L-Reactor restart. We suggest that these concerns be thoroughly addressed in the EIS.</p> <p>(a) Shallow ground water beneath the L-Area site moves generally either to the south-southeast or west-southwest; however, in areas where the confining bed is thin or absent, downward movement takes place presenting a potential for contamination of underlying aquifers.</p> <p>(b) Approximately 6000 wells have been drilled at the SRP. Many of these (approximately 600) were pre-existing domestic wells; some penetrating the Tuscaloosa, that have been abandoned. The status of these wells is not known, but any open holes or rusted-out casings provide a direct route for water from contaminated shallow aquifers to the Tuscaloosa.</p> <p>(c) The restart of L-Reactor is expected to increase deposits to the sanitary land fill. Metals, organics, and other contaminants have definitely increased in the ground water as a result of the disposal sites, some in excess of U.S. EPA drinking water standards. Two wells penetrating the Tuscaloosa formation have been abandoned because of the high levels of Triclene, Perclene, and TCE.</p> <p>(d) The presence of mica and kaolinitic clays in the subsurface will make ion exchange a significant problem in controlling the movement of contaminants in ground water, especially in the McBean formation.</p> <p>(e) Ground-water levels in the Tuscaloosa formation have definitely declined from 1965-1982. Water use by the L-Area (300 gpm) should add to these declines.</p> | Groundwater contamination | Sections 4.1.2, 5.1.1.2, 5.1.1.4, Appendix F |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|----------------|---------------|----------------------------|
|----------------|----------------|---------------|----------------------------|

(f) Approximately 5,000 Ci of tritium have migrated southwest of the burial grounds and are contained in the ground-water. Any additional disposal of tritium would add to the problem.

A010

9. The EIS should include a thorough evaluation of economic impacts on the immediate area and the entire State of South Carolina. This evaluation should include assessment of environmental effects, whether real or perceived, on recreation, tourism, future industrial development, and general economic well-being.

Socioeconomics

Sections 4.1.1.1, 4.2.1.5, 5.1.1.1, 5.2.1

In addition to the above comments, there have been numerous suggestions and areas of concern expressed at public hearings and through other avenues of public input. We encourage you to consider and address all of these concerns in your preparation of the EIS.

Thank you for the opportunity to submit the above comments for inclusion in your scoping process. Please feel free to contact me if you have any questions in this matter.

Sincerely,

Alfred H. Vang
Executive Director

AHV:cw

cc: S.C. Water Resources Commissioners

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|---|--|------------------------|-------------------------------|
| LETTER OF LAURA WORBY | | | |
| <p>NUCLEAR INFORMATION AND RESOURCE SERVICE 1346 Connecticut Avenue, N.W., 4th Floor Washington, D.C. 20036 (202) 296-7552</p> <p>August 5, 1983</p> <p>Mr. M. J. Sires III Asst. Manager for Health, Safety and Environment U.S. DOE Savannah River Operations Office P.O. Box A Aiken, S.C. 29801</p> <p>Dear Mr. Sires:</p> <p>This is in regard to the July 19, 1983 Federal Register Notice of intent to prepare an environmental impact statement (EIS) pertaining to the proposed resumption of L-Reactor operation at the Savannah River Plant. The Nuclear Information and Resource Service (NIRS) is a non-profit, membership organization which provides information and organizing assistance to citizens concerned about nuclear issues. Our interest in the L-Reactor EIS stems from our goal to facilitate maximum public discussion and participation in nuclear-related decisions, and our concern that military and civilian applications of nuclear technology be held to the same standards for protecting public health and safety and the environment.</p> | | | |
| AP1 | With regard to the scope of the EIS, we anticipate that the Secretary will examine all reasonable alternatives to production of plutonium in the L-Reactor. These alternatives should include the option of no plutonium production at all, as well as the production of plutonium in reactors other than the L-Reactor. In evaluating the alternatives, DOE must carefully consider and justify the need for additional plutonium. In justifying the need for plutonium, DOE should discuss recent reductions in projected warhead production, as well as the development of other sources of plutonium. These issues | Alternative production | Section 2.1 |
| AP2 | | Need | Section 1.1 See Comment D1 |

Table K-5. Scoping letters and EIS sections or DOE's responses (continued)

| Comment number | Scoping letter | Scoping topic | EIS section or DOE comment |
|----------------|--|------------------------|--|
| | deserve the most searching analysis, particularly at a time when the majority of U.S. citizens support at least a freeze, if not a reduction in the U.S. nuclear arsenal, which already contains some 25,000 thermonuclear warheads. We suggest that this question be addressed on an unclassified basis to the extent possible, so that it can be the subject of informed and intelligent public debate. | | |
| AP3 | If DOE finds that L-Reactor operation is the preferred option, the discussion of alternatives should examine the option of delaying start-up of the reactor, so that measures to mitigate environmental impacts and to improve the safety of the reactor may be taken. | Alternative production | Section 2.1 |
| AP4 | Regarding procedures for public review of the draft EIS, we ask the DOE provide 45 days for public and Federal and state agency review and comment on the document. The additional two weeks will allow commenters to provide more meaningful input, without significantly compromising DOE's ability to meet its 5-1/2 month schedule for completing the NEPA process. We also request that DOE hold a hearing in Washington, D.C. on the draft EIS as well as in South Carolina, in view of the substantial national interest in the L-Reactor. In addition, since the major decisions regarding start-up and mitigation measures will be made at DOE headquarters and by Congress in Washington, participation by members of the public and organizations in Washington will contribute to a better informed decision on the L-Reactor. | NEPA procedures | Foreword |
| AP5 | | NEPA procedures | Hearings are being held in South Carolina and Georgia. |

Please send a copy of the draft EIS when it is available.
Thank you very much.

Sincerely,

Laura Worby
Radioactive Waste Specialist